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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,739	01/18/2001	Robert Lawton	00-1278	9509

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EXAMINER	
FORD, VANESSA L	

ART UNIT	PAPER NUMBER
1645	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	09/765,739	LAWTON ET AL.	
	Examiner	Art Unit	
	Vanessa L. Ford	1645	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 23 February 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☐ The period for reply expires __months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☒ A Notice of Appeal was filed on *23 February 2004*. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☒ Applicant's reply has overcome the following rejection(s): See Continuation Sheet.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☐ The a)☐ affidavit, b)☐ exhibit, or c)☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☒ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: *none*.

   Claim(s) objected to: *none*.

   Claim(s) rejected: *21-24 and 39-42*.

   Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☒ Other: *see Advisory Attachment*

Continuation of 3. Applicant's reply has overcome the following rejection(s): rejections of claims 39-42 under 35 U.S.C. 112, second paragraph, pages 6-7, paragraphs 6-8 of the Final Office action..

Advisory Action Attachment

1. Applicants response filed February 23, 2004 is acknowledged.

Rejections Withdrawn

2. In view of Applicant's amendment and response the following rejections are withdrawn:

a) rejection of claims 39-42 under 35 U.S.C. 112, second, paragraph, page 6, paragraph 6.

b) rejection of claims 39-42 under 35 U.S.C. 112, second, paragraph, page 7, paragraph 7.

c) rejection of claims 39-42 under 35 U.S.C. 112, second, paragraph, page 7, paragraph 8.

Rejection Maintained

3. The rejection under 35 U.S.C. 112, second paragraph is maintained for claim 21 for the reasons set forth on page 7, paragraph 9 of the previous Office Action.

The rejection was on the grounds that claim 21 is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim is indefinite because it recites" amino acid substitution variants". It is unclear as to what the Applicant is referring?

Applicant urges that one of skill in the art would understand the meaning of an amino acid substitution variant.

Applicant's arguments filed February 23, 2003 have been fully considered but they are not persuasive. The instant specification does not define or disclose a structure for "amino acid substitution variants". Therefore, one of skill in the art would not know the structure of the claimed "amino acid substitution variants". Therefore, the rejection is maintained.

4. The rejection under 35 U.S.C. 102(a) is maintained for claims 39-42 for the reasons set forth on pages 2-4, paragraph 4 of the previous Office Action.

The rejection was on the grounds that Waner et al teach the use of a device (i.e. a clinic ELISA test kit). Waner et al teach that *Ehrlichia canis* IgG antibody titers of serum samples were determined by using a commercial ELISA test kit containing plastic combs sensitized with *E. canis* antigen. Waner et al teach that the sera to be tested was incubated with the comb (containing antigen dots). Waner et al teach that after washing away unbound antibodies the comb were allowed to react with goat anti-dog IgG alkaline phosphatase conjugate. Waner et al teach that bound antibodies were detected with a precipitating chromate, 5-bromo-4chloro-3-indolyl phosphate and nitro-blue tetrazolium. The polypeptide sequence contained on the plastic comb (i.e. device) would be inherent in the teachings of the prior art. It is well known in the art to include instructions for using polypeptides for the identification of an *Ehrlichia* infection in a mammal in a diagnostic kit. The instructions for performing various immunoassays (i.e. western blot, reversible flow chromatographic binding assay, enzyme linked immunosorbent assay or indirect immunofluorescense assay) are well known in the art. The device of Waner, et al appears to be the same as the claimed invention.

Since the Office does not have the facilities for examining and comparing applicant's device with the device of the prior art, the burden is on the applicant to show a novel or unobvious difference between the claimed product and the product of the prior art (i.e., that the device of the prior art does not possess the same material structural and functional characteristics of the claimed device). See In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and In re Fitzgerald et al., 205 USPQ 594.

Applicant urges that under 35 U.S.C. 102 a claim is anticipated only if each and every element as set forth in the claim is found in a single art reference. Applicant urges that a certain characteristic may occur or be present in a prior art reference is not sufficient to establish inherency of that characteristic. Applicant urges that the Office has provided no basis in fact and/or technical reasoning to show that the alleged inherent characteristic necessarily flows from the teachings of the applied art. Applicant urges that Waner et al do not teach or suggest the use of polypeptide fragments in the detection of *Ehrlichia*. Applicant urges that the claimed device provides greater sensitivity and specificity than the reagents used in Waner et al. Applicant refers to the Declaration filed under 37 C.F.R. 1.132 submitted by Ramaswamy Chandrashekar to show the difference in sensitivity and specificity between the claimed invention and the prior art. Applicant urges that Waner et al do not teach or suggest the use of any types of *E. chaffeensis* polypeptides in a device.

Applicant's arguments filed February 23, 2003 have been fully considered but they are not persuasive. The claims are drawn to a device containing one or more polypeptides consisting of SEQ ID Nos:1-7 and amino acid substitutions variants thereof that bind specifically to an anti-*Ehrlichia* antibody. It is the Examiner's position that there is nothing on the record to show that the claimed device differs from the device of the prior art. Waner et al teach the use of a device (i.e. a clinic ELISA test kit) comprising *Ehrlichia* antigen. The claimed invention encompasses variants of SEQ ID Nos:1-7. One skilled in the art could reasonably conclude that the *Ehrlichia* polypeptides taught by Waner et al are an amino acid substitution variant of one of the polypeptides as set

forth in SEQ ID NOs 1-7, for example SEQ ID NO: 1, since Applicant has provided no side-by-side comparison to show that the claimed polypeptide differs from the *Ehrlichia* polypeptide of the prior art. It should be noted that the claims recite "containing" which is open claim language which suggest that other components that do not cause a negative effect on the compositions of matter can be present in the claimed invention. In regards to Applicant's referral to the Declaration ~~filed~~ filed under 37 C.F.R. 1.132 (declaration of Dr. Chandrashekar) to point out that the devices of the claimed invention are more sensitive than that of the prior art, ~~It~~ it should be noted that there are no limitations in the claims requiring that the devices require any particular level sensitivity. To address Applicant's comments regarding inherency, one of skill in the art could reasonably concluded that the "polypeptides" as taught by Waner et al are substitution variants of one of the claimed polypeptides, for example SEQ ID NO:1, since the polypeptides of the prior art are used on a device (immunocomb) to detect antibodies to *E. canis*. Therefore, the inherent characteristic necessarily flows from the teachings of the applied art. Therefore, Waner et al anticipate the claimed invention.

5. The rejection under 35 U.S.C. 102(a) is maintained for claims 21-24 and 39-42 for the reasons set forth on pages 4-6, paragraph 5 of the previous Office Action.

The rejection was on the grounds that Cadman et al teach a device (i.e. a cross dot blot apparatus), nitrocellulose paper was coated with *E. canis* antigen. Cadman et al teach that 0.7 μg of protein in TBS was use per dot. Cadman et al teach that test sera was incubated with the antigen (dots on nitrocellulose paper). Cadman et al teach that the bound antibody was detected with peroxidase-labeled goat anti-dog IgG and 4-chloronaphthol. The polypeptide sequence contained on the nitrocellulose membrane (i.e. device) would be inherent in the teachings of the prior art. It is well known in the art to include instructions for using polypeptides for the identification of an *Ehrlichia* infection in a mammal in a diagnostic kit. The instructions for performing various immunoassays (i.e. western blot, reversible flow chromatographic binding assay, enzyme linked immunosorbent assay or indirect immunofluorescense assay) are well known in the art. The device of Cadman, et al appears to be the same as the claimed invention.

Since the Office does not have the facilities for examining and comparing applicant's device with the device of the prior art, the burden is on the applicant to show a novel or unobvious difference between the claimed product and the product of the prior art (i.e., that the device of the prior art does not possess the same material structural and functional characteristics of the claimed device). See In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and In re Fitzgerald et al., 205 USPQ 594.

Applicant urges that under 35 U.S.C. 102 a claim is anticipated only if each and every element as set forth in the claim is found in a single art reference. Applicant teach that a certain characteristic may occur or be present in a prior art reference is not sufficient to establish inherency of that characteristic. Applicant urges that the Office has provided no basis in fact and/or technical reasoning to show that the alleged inherent characteristic necessarily flows from the teachings of the applied art. Applicant urges that Cadman et al do not teach or suggest the use of polypeptide fragments in the detection of *Ehrlichia*. Applicant urges that Cadman et al do not teach the polypeptides of SEQ ID NOs:3-7. Applicant urges that the claimed device provides greater sensitivity

and specificity than the reagents used in Waner et al. Applicant refers to the Declaration filed under 37 C.F.R. 1.132 submitted by Ramaswamy Chandrashekar to show the difference in sensitivity and specificity between the claimed invention and the prior art. Applicant urges that Cadman et al do not teach or suggest the use of any types of *E. canis* polypeptides in a device.

Applicant's arguments filed February 23, 2004 have been fully considered but they are not persuasive. The claims are drawn to a device containing one or more polypeptides selected from SEQ ID Nos:3-7 and amino acid substitutions variants thereof and amino acid substitutions variants thereof that bind specifically to an anti-*Ehrlichia* antibody. It is the Examiner's position that there is nothing on the record to show that the teaching of the prior art do not anticipate the claimed invention. Cadman et al teach an indirect fluorescent assay (IFA) which is the recommended diagnostic test for *E. canis* infection, and has shown to be both sensitive and specific (page 362, 1st column). The claimed invention encompass variants of SEQ ID NOs: 3-7. Therefore, one skilled in the art could reasonably conclude that the *E. canis* polypeptide of the prior art is an amino acid substitution variant of one of the polypeptides as set forth in SEQ ID NOs:3-7, for example SEQ ID NO:3, since Applicant has provided no side-by-side comparison to show that the device of the prior art differs from the device of the claimed invention. It should be noted that the claims recite "containing" which is open claim language which suggest that other components that do not cause a negative effect on the device can be present in the claimed invention. In regards to Applicant's referral to the Declaration ~~filed~~ filed under 37 C.F.R. 1.132 (declaration of Dr.

Chandrashekar) to point out that the devices of the claimed invention are more sensitive than that of the prior art. It should be noted that there are no limitations in the claims requiring that the devices require any particular level sensitivity. To address Applicant's comments regarding inherency, one of skill in the art could reasonably conclude that the "polypeptides" as taught by Cadman et al are a substitution variant of one of the claimed polypeptides, for example SEQ ID NO:3, since the polypeptides of the prior art are used on a device (a cross blot dot apparatus/nitrocellulose paper) to detect antibodies to *E. canis*. Therefore, the inherent characteristic necessarily flows from the teachings of the applied art. Cadman et al, anticipate the claimed invention.

6. The rejection under 35 U.S.C. 102(a) is maintained for claims 21-24 for the reasons set forth on pages 8-9, paragraph 10 of the previous Office Action.

The rejection was on the grounds that Rikihisia et al teach devices such as columns, plastic dishes and membranes that contain the *Ehrlichia* polypeptides and peptide of the invention for using in serodiagnosing ehrlichiosis in mammals (see the Abstract and page 11). Rikihisia et al teach an amino acid variant of SEQ ID NO:7 has 85% identity to SEQ ID NO:7 (see Figure 19B). Rikihisia et al anticipates the claimed invention.

Since the Office does not have the facilities for examining and comparing applicant's device with the device of the prior art, the burden is on the applicant to show a novel or unobvious difference between the claimed product and the product of the prior art (i.e., that the device of the prior art does not possess the same material structural and functional characteristics of the claimed device). See In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and In re Fitzgerald et al., 205 USPQ 594.

Applicant urges that a certain characteristic may occur or be present in a prior art reference is not sufficient to establish inherency of that characteristic. Applicant urges that the Office has not provided a basis in fact and/or technical reasoning to show that

the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Applicant urges that Rikihisa et al do not teach or suggest the use of polypeptide fragments in devices and in particular do not teach or suggest the particular fragment shown in SEQ ID NOs:1-7. Applicant urges that the Office has not provided basis that the whole recombinant protein antigens in Rikihisa et al would be fragmented in any way. Applicant urges that the claimed compositions of matter provide greater sensitivity than the reagents taught in Rikihisa et al (see the declaration of Dr. Chandrashekar).

Applicant's arguments filed February 23, 2004 have been fully considered but they are not persuasive. It is the Examiner's position that there is nothing on the record to show that the claimed composition and article of manufacture differs from the composition and article of manufacture of the prior art. The claims are drawn to composition and article of manufacture consisting essentially of an isolated polypeptide shown in SEQ ID NOs:1-7 and amino acid substitution variants thereof that specifically bind to an anti-*Ehrlichia* antibody. Rikihisia et al teach an amino acid variant of SEQ ID NO:7 has 85% identity to SEQ ID NO:7 (see Figure 19B). The claimed invention encompass variants of SEQ ID NO: 7, therefore one skilled in the art could reasonably conclude that the *E. canis* polypeptides of the prior art are variants of SEQ ID NO:7 since Rikihisa et al teach that the invention embraces non-naturally occurring allelic forms or derivatives of the outer membrane proteins (i.e. P30) (page 10). Applicant has provided no side-by-side comparison to show that the claimed polypeptide differs from the *E. canis* polypeptides of the prior art. It should be noted

that the claim recites "consisting essentially of" which is open claim language which suggest that other components that do not cause a negative effect on the compositions of matter can be present in the claimed invention.

In regards to Applicant's referral to the Declaration filled under 37 C.F.R. 1.132 (declaration of Dr. Chandrashekar) to point out that the compositions of matter of the claimed invention are more sensitive than that of the prior art, it should be noted that there are no limitations in the claims requiring that the compositions of matter require any particular level sensitivity. To address Applicant's comments regarding inherency, there is no limitation in the claims nor is this issue addressed in the Examiner's rejection. The prior art teaches composition and article of manufacture consisting essentially of an amino acid substitution variants of SEQ ID NO:7. Therefore, Rikihisa et al anticipate the claimed invention.

7. No claims allowed.

Conclusion

8. Any inquiry of the general nature or relating to the status of this general application should be directed to the Group receptionist whose telephone number is (703) 308–0196.

Papers relating to this application may be submitted to Technology Center 1600, Group 1640 by facsimile transmission. The faxing of such papers must conform with the notice published in the Office Gazette, 1096 OG 30 (November 15, 1989). Should applicant wish to FAX a response, the current FAX number for the Group 1600 is (703) 872-9306.

Any inquiry concerning this communication from the examiner should be directed to Vanessa L. Ford, whose telephone number is (571) 272-0857. The examiner can normally be reached on Monday – Friday from 9:00 AM to 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith, can be reached at (571) 272-0864.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov./>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vanessa L. Ford
Biotechnology Patent Examiner
May 5, 2004

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